United States
Environmental Protection Agency

Air and Radiation
Stratospheric Protection Division
6205J

Substitute Solvents Used in Adhesives, Coatings and Inks Under SNAP as of November 3, 2000

SNAP Information: www.epa.gov/ozone/title6/snap/snap.html
Stratospheric Ozone Protection Hotline: (800) 296-1996

EPA has created the Significant New Alternatives Policy (SNAP) Program under section 612 of the Clean Air Act Amendments. SNAP evaluates alternatives to ozone-depleting substances. Substitutes are reviewed on the basis of ozone depletion potential, global warming potential, toxicity, flammability, and exposure potential as described in the March 18, 1994 final SNAP rule (59 FR 13044). Lists of acceptable and unacceptable substitutes will be updated periodically in the Federal Register. The following SNAP notices and subsequent final rules are included in this list: August 26, 1994 (59 FR 44240), January 13, 1995 (60 FR 3318), June 13, 1995 (60 FR 31092), July 28, 1995 (60 FR 38729), February 8, 1996 (61 FR 4736), May 22, 1996 (61 FR 25585), September 5, 1996 (61 FR 47012), October 16, 1996 (61 FR 54030), March 10, 1997 (62 FR 10700), June 3, 1997 (62 FR 30275) , February 24, 1998 (63 FR 9151), May 22, 1998 (63 FR 28251), January 26, 1999 (64 FR 3861), April 28, 1999 (64 FR 22981), June 8, 1999 (64 FR 30410), December 6, 1999 (64 FR 68039), April 11, 2000 (65 FR 19327), and June 19, 2000 (65 FR 37900).

Substitutes for Solvents Used in Adhesives, Coatings and Inks under the Significant New Alternatives Policy (SNAP) Program as of November 3, 2000

Substitute	ODS Being Replaced	Decision	Conditions or Restrictions	Comments
Petroleum Hydrocarbons	Methyl Chloroform	Acceptable	None	OSHA standards exist for many of these chemicals. Formulators should use chemicals with lowest toxicity, where possible.
Oxygenated solvents (Alcohols, Ketones, Ethers, and Esters)	Methyl Chloroform	Acceptable	None	OSHA standards exist for many of these chemicals. Formulators should use chemicals with lowest toxicity, where possible.
Chlorinated solvents (methylene chloride, trichloro-ethylene, perchloroethylene)	Methyl Chloroform	Acceptable	None	High inherent toxicity. Use only when necessary. OSHA and RCRA standards must be met.
Terpenes	Methyl Chloroform	Acceptable	None	None
Water-based formulations	Methyl Chloroform	Acceptable	None	None
High-solid formulations	Methyl Chloroform	Acceptable	None	None

Monochlorotoluene / Benzotrifluorides	CFC-113, Methyl Chloroform, HCFC-141b	Acceptable subject to use conditions	The workplace standard for monochlorotoluenes is based on an OSHA PEL of 50 ppm for orthochlorotoluene.	The acceptable exposure limit (AEL) for benzotrifluorides is 100 ppm.
Trans-1,2-dichloroethylene	CFC-113, MCF	Acceptable subject to use conditions	The OSHA set exposure limit (PEL) is 200 ppm.	None
Chlorobromomethane	CFC-113, MCF	Unacceptable	N/A	Other alternatives exist with zero or much lower ODP.
Alternative technologies (e.g., powder, hot melt, thermoplastic plasma spray, radiation-cured, moisture-cured, chemical-cured, and reactive liquid)	Methyl Chloroform	Acceptable	None	None